Industry Reliability QFD
Q1 recirc. 1 - Needs

March 31, 2010

AVSI Project AFE 74

Boeing

Honeywell

AVSI AFE-74

Objectives

- **Chart the future of reliability research**
- **Integrate the wisdom and experience of a large number of industry reliability experts**
- **Focus the discussions around the common goal to improve electronics reliability assessment practices**
- **Critically analyze findings, and organize analysis process using the Quality Function Deployment (QFD)**
- **Develop a reliability roadmap with broad**

Within the scope of AFE 74's charter to investigate electronic and electromechanical failure rate modeling

AFE 74 – Integrated Reliability

AFE 74 (2010 Project) will build on framework and roadmap developed under AFE 70 (2008-2009 Project):

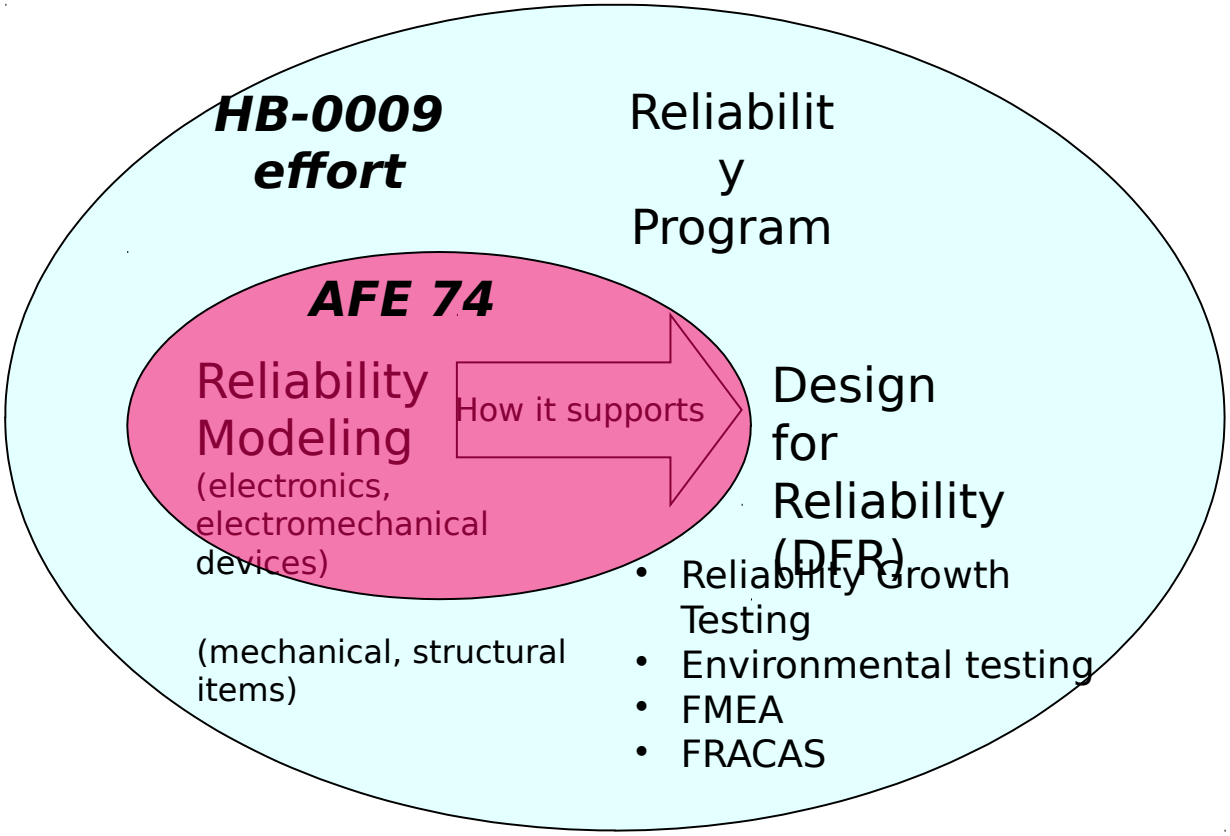
- **Quality Function Deployment (QFD) will be conducted with broad participation from multiple branches of the DoD, subject matter experts and industry stakeholders, to build a reliability roadmap.**
- **This project will develop additional capabilities and a prediction module (Module A) for the reliability prediction framework developed in project AFE 70.**
- **This new reliability module (Module A) will be provided to the Naval Surface Warfare Center (NSWC) Crane to be added to a future update to**

Definitions for this project (AFE 74)

- **Reliability –**
  - **The ability of an item to perform a required function under stated conditions for a stated period of time**

- **Reliability Modeling –**
  - **A mathematical model or models used to evaluate the products' reliability at various stages of its life cycle**
  - **Based on known conditions of use, the stated period of time, information on the design of the item, physics of failure, models of failure mechanisms and fatigue factors**
  - **Includes Reliability Predictions (forecasts of reliability)**
- **Reliability Assessment –**
  - **Includes Reliability Modeling, but may also include other reliability assurance activities such as HALT, FRACAS, closed loop field failure analysis, etc., that are not necessarily quantitative but also qualitative**
- **Design for Reliability (DFR) –**
  - **A process for improving an item's reliability**
  - **DFR uses information available from reliability predictions, failure modes effects analyses (FMEAs), reliability growth testing, environmental testing, data from designed experiments, field data, and closed-loop failure reporting and corrective action system (FRACAS) to systematically eliminate sources of failure**

Scope of this study and other efforts



Reliability modeling provides information for the DFR process, but is not the only activity in the reliability program

THANK YOU

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